

Amendments to the Claims:

1. (Currently amended) A method for superplastically forming a blank to produce a first structural member having a predetermined configuration, the method comprising:
providing the blank comprising titanium and having a grain size of ~~less than about 2~~
between about 0.8 and 1.2 micron;
heating the blank to within a superplastic forming temperature range of the blank; and
superplastically forming the blank at a forming temperature of less than 1450 °F [[about 1500 °F]] to produce the structural member having the predetermined configuration.
2. (Original) A method according to Claim 1 wherein said providing step comprises providing the blank formed of Ti-6Al-4V.
3. (Cancelled)
4. (Original) A method according to Claim 1 wherein said providing step comprises providing the blank having a grain size of about 1 micron.
5. (Original) A method according to Claim 1 wherein said superplastically forming step comprises forming less than about 0.001 inch alpha case oxide layer on each surface of the structural member.
6. (Original) A method according to Claim 1 further comprising pickling the structural member to remove alpha case oxide formed thereon during said superplastically forming step.
7. (Original) A method according to Claim 6 wherein said pickling step comprises subjecting the structural member to a pickling fluid and thereby removing material from surfaces of the structural member at a rate less than about 5×10^{-5} inch per minute.
8. (Original) A method according to Claim 6 wherein said pickling step comprises removing less than about 0.001 inch from each surface of the structural member.

9. (Original) A method according to Claim 6 wherein said superplastically forming step comprises forming the blank to a thickness less than about 0.002 inch greater than a desired thickness of the structural member.

10. (Original) A method according to Claim 1 wherein said superplastically forming step comprises superplastically forming the structural member at a temperature between about 1400 °F and 1450 °F.

11. (Original) A method according to Claim 1 wherein said superplastically forming step comprises superplastically forming the blank at a strain rate of at least about 6×10^{-4} per second.

12. (Original) A method according to Claim 1 wherein said superplastically forming step comprises superplastically forming the blank at a strain rate of at least about 1×10^{-3} per second.

13. (Original) A method according to Claim 1, further comprising providing a second structural member and diffusion bonding the second structural member to at least one of the blank and the first structural member.

14. (Original) A method according to Claim 13 wherein said step of providing the second structural member comprises providing the second structural member comprising titanium with a grain size of greater than about 2 microns.

15. (Cancelled)

16. (Original) A method for superplastically forming a blank to produce a structural member having a predetermined configuration, the method comprising:

providing the blank formed of Ti-6Al-4V and having a grain size of between about 0.8 and 1.2 micron;

heating the blank to within a superplastic forming temperature range of the blank;

superplastically forming the blank at a forming temperature of less than about 1450 °F to produce the structural member having the predetermined configuration, thereby forming a layer of alpha case oxide of less than about 0.001 inch thickness on each surface of the structural member; and

pickling the structural member to remove the alpha case oxide layer.

17. (Original) A method according to Claim 16 wherein said providing step comprises providing the blank having a grain size of about 1 micron.

18. (Original) A method according to Claim 16 wherein said pickling step comprises subjecting the structural member to a pickling fluid and thereby removing material from surfaces of the structural member at a rate less than about 5×10^{-5} inch per minute.

19. (Original) A method according to Claim 16 wherein said pickling step comprises removing less than about 0.001 inch from each surface of the structural member.

20. (Original) A method according to Claim 16 wherein said superplastically forming step comprises forming the blank to a thickness less than about 0.002 inch greater than a desired thickness of the structural member.

21. (Original) A method according to Claim 16 wherein said superplastically forming step comprises superplastically forming the structural member at a temperature of about 1425 °F.

22. (Original) A method according to Claim 16 wherein said superplastically forming step comprises superplastically forming the blank at a strain rate of at least about 6×10^{-4} per second.

23. (Original) A method according to Claim 16 wherein said superplastically forming step comprises superplastically forming the blank at a strain rate of at least about 1×10^{-3} per second.

24. (Original) A method according to Claim 16, further comprising diffusion bonding at least a portion of at least one of the blank and the structural member at a temperature of less than about 1500 °F.

25. (Original) A method according to Claim 24 wherein said diffusion bonding step comprises diffusion bonding at least one of the blank and the structural member to a member comprising titanium with a grain size of greater than about 2 microns.

Claims 26-35. (Cancelled)

36. (New) A method for superplastically forming a blank to produce a structural member having a predetermined configuration, the method comprising:

providing the blank formed of Ti-6Al-4V and having a grain size of between about 0.8 and 1.2 micron;

heating the blank to within a superplastic forming temperature range of the blank; and
superplastically forming the blank at a forming temperature of less than about 1450 °F and at a strain rate of at least about 6×10^{-4} per second to produce the structural member having the predetermined configuration.

37. (New) A method according to Claim 36 wherein said providing step comprises providing the blank having a grain size of about 1 micron.

38. (New) A method according to Claim 36, further comprising subjecting the structural member to a pickling fluid and thereby removing material from surfaces of the structural member at a rate less than about 5×10^{-5} inch per minute.

39. (New) A method according to Claim 38 wherein said subjecting step comprises removing less than about 0.001 inch from each surface of the structural member.

40. (New) A method according to Claim 36 wherein said superplastically forming step comprises forming the blank to a thickness less than about 0.002 inch greater than a desired thickness of the structural member.

41. (New) A method according to Claim 36 wherein said superplastically forming step comprises superplastically forming the structural member at a temperature of about 1425 °F.

42. (New) A method according to Claim 36 wherein said superplastically forming step comprises superplastically forming the blank at a strain rate of at least about 1×10^{-3} per second.

43. (New) A method according to Claim 36, further comprising diffusion bonding at least a portion of at least one of the blank and the structural member at a temperature of less than about 1500 °F.

44. (New) A method according to Claim 43 wherein said diffusion bonding step comprises diffusion bonding at least one of the blank and the structural member to a member comprising titanium with a grain size of greater than about 2 microns.